IN THE CLAIMS

1. (Currently amended) A method of accelerating the routing of frames by an acceleration switch within a network, comprising:

receiving, by the acceleration switch, frames directed to one of one or more routers or switches of the network;determining, for at least some of the received frames, whether the frames belong to a first list of frame groups, defined by values of a plurality of frame parameters; and

routing, by the acceleration switch, at least some of the received frames, the routed frames being selected responsive to the determining;

wherein the first list of frame groups is one of a plurality of lists of frame groups including at least one additional list of frame groups different than the first list of frame groups;

wherein one or more frame parameters defining the groups of the at least one additional list are not the same parameters as the plurality of frame parameters which define the groups of the first list; and

wherein the acceleration switch compares the received frames to one of the first or at least one additional lists.

2. (Original) A method according to claim 1, wherein receiving frames directed to one of one or more routers or switches comprises receiving frames which have a layer-2 destination address of one of the one or more routers or switches.

3. (Original) A method according to claim 1, wherein routing the at least some of the received frames comprises routing the frames based on, substantially only, the destination addresses of the frames.

4. (Original) A method according to claim 1, wherein routing the at least some of the received frames comprises routing the received frames using information in an entry of the first list of frame groups which matches the routed frame.

5. (Original) A method according to claim 1, wherein routing at least some of the received frames comprises routing frames which were determined to belong to a group in the first list.

2

6. (Original) A method according to claim 1, comprising bridging frames which were determined not to belong to a group in the first list according to their layer-2 information.

7. (Original) A method according to claim 1, wherein determining for at least some of the received frames comprises determining for substantially all the received frames.

8. (Original) A method according to claim 1, wherein determining, for at least some of the received frames comprises determining for frames which may require access control.

9. (Original) A method according to claim 8, wherein determining, for at least some of the received frames comprises determining for frames of a connectionless protocol.

10. (Original) A method according to claim 8, wherein determining, for at least some of the received frames comprises determining for frames directed to well known UDP ports.

11. (Original) A method according to claim 1, wherein the first list of frame groups comprises a list of groups which include frames routed by one or more routers or switches of the network.

12. (Original) A method according to claim 11, wherein the first list of frame groups comprises a list of groups which include frames recently routed by one or more routers or switches of the network.

13. (Original) A method according to claim 1, wherein the first list of frame groups comprises information extracted from frames having as their layer-2 source address an address of one of the one or more routers or switches.

14. (Original) A method according to claim 1, wherein the first list of frame groups comprises information extracted from frames having as their layer-2 destination address an address of one of the one or more routers or switches.

3

15. (Original) A method according to claim 1, wherein the first list of frame groups lists only groups including frames transmitted to and received from the one or more routers or switches.

16. (Original) A method according to claim 1, wherein the plurality of parameters which define the frame groups comprise at least two parameters not required in order to perform the routing.

17. (Currently amended) A method according to claim 1, wherein the plurality of parameters which define the frame groups comprise an IP destination address and at least one parameter in addition to the IP destination address.

18. (Original) A method according to claim 1, wherein the plurality of parameters which define the frame groups comprise the source port or destination port of the frames.

19. (Original) A method according to claim 1, wherein the plurality of parameters which define the frame groups comprise the protocol of the frames.

20. (Currently amended) A method according to claim 1, comprising:

determining, for at least some of the received frames, whether the frames belong to a group in the at least one additional list of frame groups;

routing, by the acceleration switch, at least some of the received frames, the routed frames being selected responsive to the determining of whether the frames belong to a group in the at least one additional list.

21. (Original) A method according to claim 20, wherein the groups of the at least one additional list are defined by one or more parameters required for routing the frames.

22. (Original) A method according to claim 21, wherein the one or more parameters which define the groups of the at least one additional list comprise only a destination address of the frames.

4

23. (Original) A method according to claim 20, wherein determining, for at least some of the received frames, whether the frames belong to a group in the at least one additional list comprises determining for frames which do not require access control.

24. (Original) A method according to claim 20, wherein determining, for at least some of the received frames, whether the frames belong to a group in the at least one additional list comprises determining for non-leading frames of a connection based protocol.

25. (Original) A method according to claim 20, wherein determining, for at least some of the received frames, whether the frames belong to a group in the at least one additional list comprises determining for frames directed to any of a predetermined group of ports.

26. (Canceled)

27. (Original) A method according to claim 20, wherein at least some of the received frames are compared to the first list to determine whether the frame belongs to a group in the first list and if no match is found are compared to the at least one additional list.

28. (Canceled)

29. (Currently amended) A method according to claim 28 1, wherein the acceleration switch determines to which list to compare the received frames responsive to the physical port through which they are received by the switch.

30. (Currently amended) A method according to claim 28 1, wherein the acceleration switch determines to which list to compare the received frames responsive to the router or switch to which they are directed.

31. (Currently amended) A method according to claim ~~28~~ 1, wherein the acceleration switch determines to which list to compare the received frames responsive to the protocol to which they relate.

32. (Original) A method according to claim 20, wherein routing the at least some of the received frames responsive to the determining of whether the frames belong to a group in the at least one additional list comprises routing the received frames using information in an entry of the additional list of frame groups which matches the routed frame.

33. (Currently amended) A method of accelerating the routing of frames by an acceleration switch within a network, comprising:

      providing, in the acceleration switch, a plurality of lists of groups of frames used for routing;

      receiving, by the acceleration switch, frames directed to one of one or more routers or switches of the network;

      comparing at least one of the received frames to at least one of the plurality of lists; and

      routing, by the acceleration switch, received frames for which a match was found in the comparison;

      wherein providing the plurality of lists comprises providing lists which use different sets of parameters in defining groups of frames; and

      wherein comparing at least one of the received frames to at least one of the plurality of lists comprises determining to which of the at least one of the plurality of lists to compare each frame responsive to the value of one or more fields of the frame.

34. (Canceled)

35. (Original) A method according to claim 33, wherein comparing at least one of the received frames to at least one of the plurality of lists comprises comparing at least one of the received frames to a plurality of the lists.

36. (Canceled)

6

37. (Canceled)

38. (Currently amended) A switch according to claim ~~37~~ 42, wherein the table trainer creates entries in the at least one table responsive to frames received from the at least one router or routing switch.

39. (Currently amended) A switch according to claim ~~37~~ 42, wherein the table trainer selects frames to be used in creating entries in the at least one table responsive to at least the source MAC address of the frames.

40. (Currently amended) A switch according to claim ~~37~~ 42, wherein the table trainer selects frames to be used in creating entries in the at least one table irrespective of the destination MAC address of the frames.

41. (Canceled)

42. (Currently amended) ~~A switch according to claim 41,~~ An acceleration switch, comprising:
    at least one table which lists groups of frames defined by a plurality of parameters of the frames;
    a table trainer which creates entries in the at least one table responsive to frames received by the switch;
    a comparator which determines whether the frames belong to one of the groups in one or more of the at least one table; and
    a routing unit which routes frames directed to at least one router or routing switch for which the comparator found a matching group in the one or more of the at least one table;
    wherein the at least one table comprises a plurality of tables which define groups of frames based on different sets of one or more parameters of the frames; and
    wherein the comparator selects the one or more of the at least one table to which a frame is compared responsive to a type of the frame.

43. (Original) A switch according to claim 42, wherein the type of the frame is determined responsive to a protocol of the frame.

44. (Original) A switch according to claim 42, wherein the type of the frame is determined responsive to a VLAN of the frame.

45. (Currently amended) A communication network, comprising:

at least one router; and

at least one router acceleration switch as in claim ~~37~~ 42.

46. (Canceled)

47. (Currently amended) A method ~~according to claim 46,~~ for creating an acceleration routing table, comprising:

receiving frames which include routing data;

determining, responsive substantially only to information within the received frames, whether frames routed based on the routing data of the received frames may violate policy rules; and

creating entries in an acceleration routing table based on routing data which may not cause violation of policy rules according to the determination, wherein entries are not created based on routing data which may cause violation of policy rules according to the determination;

wherein determining whether frames routed based on the routing data may violate policy rules comprises determining whether the received frames carrying the routing data were routed by a neighboring router.

48. (Currently amended) A method ~~according to claim 46,~~ for creating an acceleration routing table, comprising:

receiving frames which include routing data;

determining, responsive substantially only to information within the received frames, whether frames routed based on the routing data of the received frames may violate policy rules; and

creating entries in an acceleration routing table based on routing data which may not cause violation of policy rules according to the determination, wherein entries are not created based on routing data which may cause violation of policy rules according to the determination;

wherein determining whether frames routed based on the routing data may violate policy rules comprises determining that frames routed based on the routing data will not violate policy rules for frames which were routed by a neighboring router.